A PROTOCOL VALIDATION OF QUALITATIVE AND QUANTITATIVE METHODS AND ITS APPLICATION IN FORENSIC ANTHROPOLOGY: A PILOT STUDY

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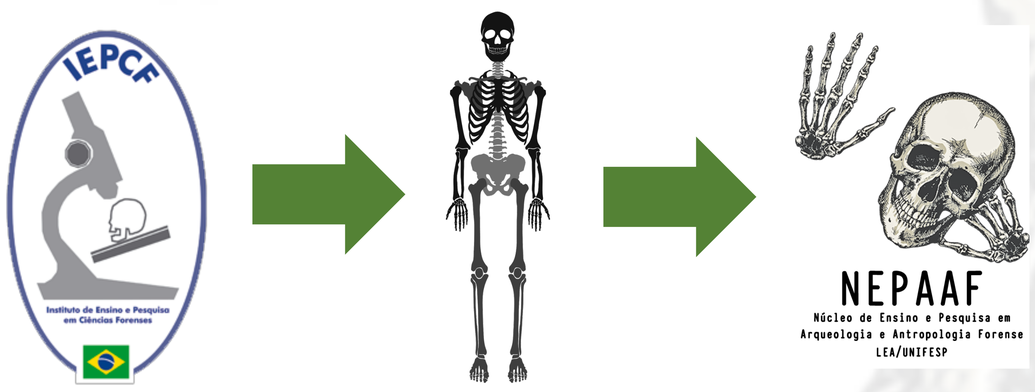
ABSTRACT AND INTRODUCTION

Forensic Anthropology uses methods based on osteological and/or dental analyses that allow the diagnosis of sex, age, stature and ancestry in order to help the identification of the deceased in an advanced state of decomposition or even skeletonized. These methods are usually developed from identified skeletal collections, with ante-mortem data, constituting indispensable tools for the scientific work and forensic investigation, and for professional qualification of trained personnel as well.

The current project deals with the analysis of an identified osteological collection of the Institute of Teaching and Research in Forensic Sciences (IEPCF) in order to conduct research and provide advanced training through the compilation and organization of documentary data (*antemortem* phase) and through preparation, curation and osteological analysis of the skeletons (*postmortem* phase). The research is developed at the Laboratory of Archaeological Studies (Laboratório de Estudos Arqueológicos – LEA), as a pioneer project of the Science Research and Teaching Center of Forensic Archaeology and Anthropology (Núcleo de Ensino e Pesquisa em Arqueologia e Antropologia Forense – NEPAAF) at the Federal University of São Paulo (Universidade Federal de São Paulo – UNIFESP). One of the main goals of the project is to create an anthropological database to maximize the research and training potential of this new reference osteological collection to adapt international standard procedures and methods to Brazilian contexts. The research and the database will also contribute to the creation of a scientifically rigorous forensic anthropology standard protocol that could be adopted throughout the country, providing cross-checking of data and broadening of the integrated investigations. Besides, the process of establishing this skeletal collection for research will allow us to continue to offer the *Forensic Anthropology and Human Rights* specialization course at UNIFESP allowing actions to ensure respect for diversity and combat inequality in Brazil.

MATERIALS AND METHODS



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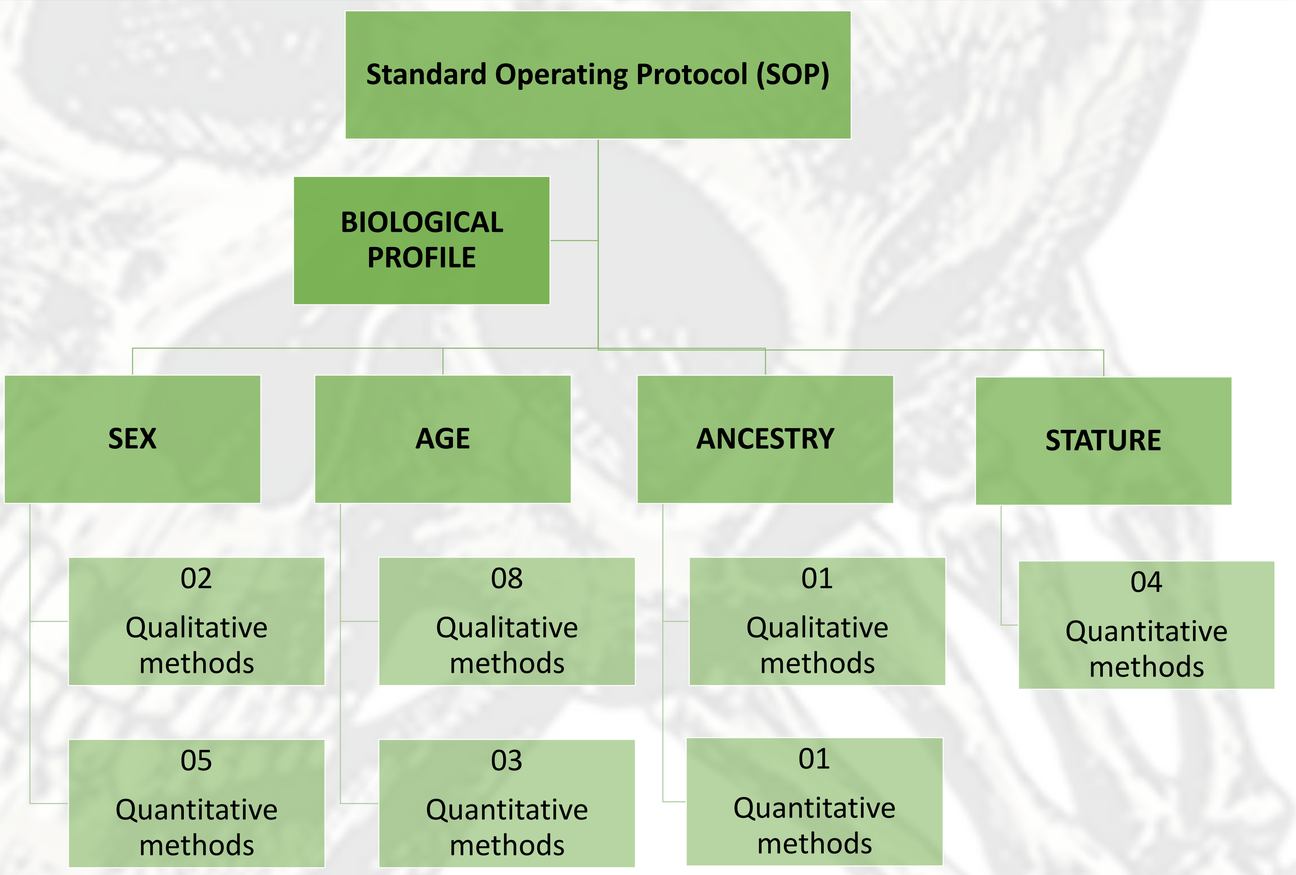
DOCUMENTED SAMPLE

Ante-mortem and post-mortem databases were developed in order to promote data crossing to validate the bioanthropological analyses.



RESULTS AND CONCLUSIONS

The preliminary results from the sample analyzed so far show that the quantitative methodologies were easily calibrated among the examiners (coordinators and trainees) compared to the qualitative methods. Some disagreements between the results of the morphoscopic methods were found evidencing the need to apply more than one method in the analysis of the biological profile characteristics and constructions of a decision table. The metric methods applied for estimating sex clearly demonstrate that some bone measurements do not fit in international standards and they do need to be calibrated for Brazilian contexts. Some discrepancies are verified mainly for the maximum femoral head diameter, the maximum iliac breadth and the maximum pelvic height.

Qualitative methods for age estimation were also subject matter of disagreement. The medium age is usually much older mainly for methods considering cranial suture closure.

The methods used for predicting ancestry, both qualitative and metric, indicate the biggest disagreement and discrepancies. Therefore, age estimation methods that require prior identification of ancestry have proved inadequate for the Brazilian multiethnic context.

All the cases analyzed do not show any *perimortem* trauma and lesions as results of violent actions. Bone fractures prevailed in most of the skeletons have an *antemortem* nature. Most of them have bone pathologies provided by common degenerative aging process. Such features are compatible with the characteristics of the cemetery-derived osteological collection, once the skeletons come from public exhumations of unclaimed individuals with extensive *antemortem* documentation including sex, age, statute, ancestry, place of birth and death, date of birth/death and cause of death. Some of the observed lesions are due to repetitive stress activities.

The description and systematization of this type of stress lesions/injuries provide interesting features for personal and individualizing characters associated with the study of labor activities.

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